St. Croix - Red Cedar CWMA
Cooperative Weed Management Area

BUCKTHORN

CHEMICAL TREATMENT SEMINAR

Welcome!

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BARRON COUNTY WISCONSIN

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ST. CROIX COUNTY Wisconsin

Innovation Through Cooperation

SEAL OF BURNETT COUNTY WISCONSIN

IPAW INVASIVE PLANTS ASSOCIATION OF WISCONSIN

Polk County Wisconsin

UW Extension

University of Wisconsin-Extension

St. Croix River ASSOCIATION

WISCONSIN DEPT. OF NATURAL RESOURCES

NATIONAL PARK SERVICE

TODAY'S AGENDA

- **KNOW THE ENEMY**
  - *Buckthorn impact & ID*
- **PLAN OF ATTACK**
  - *Preparation*
- **ARM YOURSELF**
  - *Using herbicide*

Introduced from Europe as a hedge. Forms dense thickets in forest understory

Crowds out native plants. Leads to low quality wildlife food and shelter, and even increased soil erosion.

Glossy buckthorn has been sold by the nursery trade in three different forms, so its appearance can vary.

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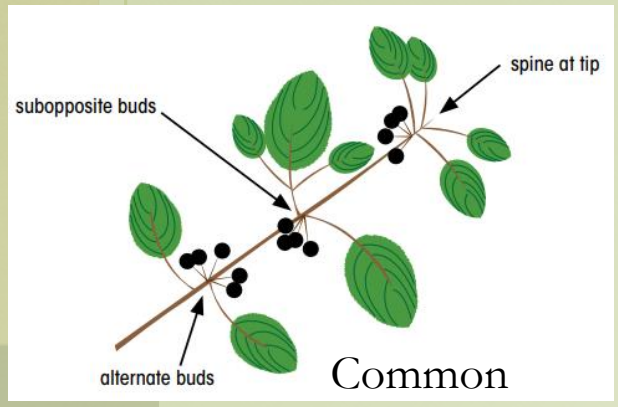
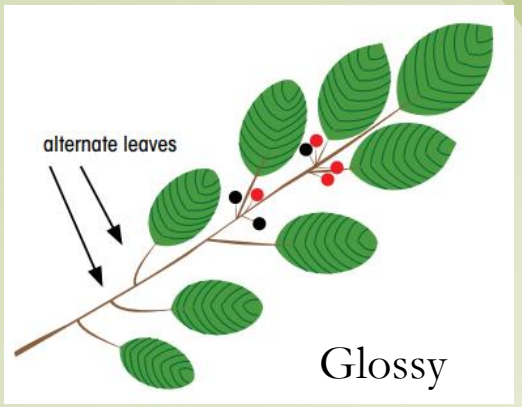
Identification





Leaves out early and keep late into fall. Gives it competitive advantage over natives, but we can use this characteristic against it by making it easy to identify!

The stem of each buckthorn berry attaches directly to the twig. Berries of native species form a group that is attached to the twig by one stem.

Easily confused with dogwood, plum, cherry, chokecherry, nannyberry, alder

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Habitat

Common Buckthorn (*Rhamnus cathartica*)

- Dry to moist areas (woodlands, savannas, abandoned fields, roadsides)
- Full sun and shade

Glossy Buckthorn (*Frangula alnus [Rhamnus frangula]*)

- Primarily wet areas (bogs, marshes, riverbanks, wetlands, pond edges), but will also grow in dry areas
- Full sun and shade

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Leaves

Common Buckthorn (*Rhamnus cathartica*)

- Toothed edges
- 3 - 5 upward curving veins
- Thorn at tip of twig

Glossy Buckthorn (*Frangula alnus [Rhamnus frangula]*)

- Smooth edges
- Deep, parallel veins
- No thorn

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Flowers

Common Buckthorn (*Rhamnus cathartica*)

- Greenish yellow
- Individual plants produce either male or female flowers (dioecious)
- 4 petals

Glossy Buckthorn (*Frangula alnus [Rhamnus frangula]*)

- Greenish white
- Both male and female parts
- 5 petals

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Berries

Common Buckthorn (*Rhamnus cathartica*)

- Pea sized blue-black berries

Glossy Buckthorn (*Frangula alnus [Rhamnus frangula]*)

- Start red and ripen to black

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Bark & Twigs

Common Buckthorn (*Rhamnus cathartica*)

Glossy Buckthorn (*Frangula alnus [Rhamnus frangula]*)

- Young plants have smooth bark with white spots (lenticels)
- Bark becomes flaky in mature plants
- Inner bark is orange

Rhamnus cathartica common buckthorn | *Prunus serotina* black cherry | *Frangula alnus* glossy buckthorn

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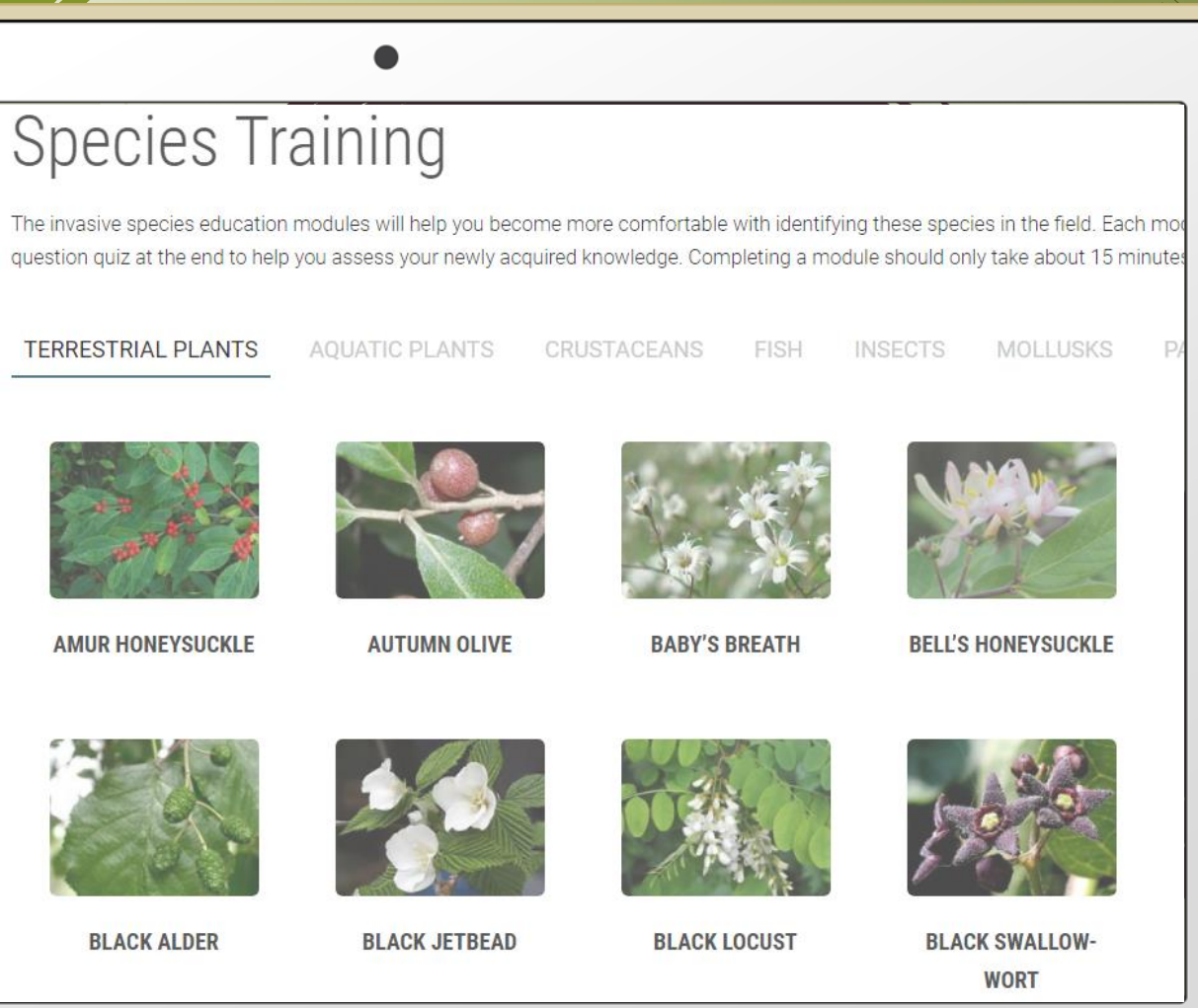

misin.msu.edu/species-training

MISIN Midwest Invasive Species Information Network

Training modules teach you how to identify invasive species and quiz yourself after!

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Common Buckthorn

✓Glossy Buckthorn

Neither

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Common Buckthorn

Glossy Buckthorn

✓Neither

This is silky dogwood

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✓ Common Buckthorn

Glossy Buckthorn

Neither

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Common Buckthorn

Glossy Buckthorn

✓Neither

This is New Jersey tea

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Common Buckthorn

✓ Glossy Buckthorn

Neither

Common Buckthorn

Glossy Buckthorn

✓Neither

This is spicebush

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✓ Common Buckthorn

Glossy Buckthorn

Neither

Common Buckthorn

Glossy Buckthorn

✓Neither

This is black alder

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Common Buckthorn

✓Glossy Buckthorn

Neither

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Make the overwhelming manageable with a plan

Prioritize

Remove trees with fruit first

These are your future problem

Start at the outliers

Keep the nice areas nice. Then move to more heavily infested areas.

Work in from the edge

Until it shrinks away

Best to do chemical treatment in fall: Sap is running down to roots, most native plants are dormant, buckthorn easy to ID, not hot, and no bugs!

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Control Methods

Manual

- Pulling
- Mowing
- Burning
- Smothering

Chemical

~~Biological~~

All treatment methods have strengths and weaknesses

Integrated approach most successful

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Manual/Mechanical Methods

Goats are becoming a new tool! Not selective, need a chemical treatment follow-up, and can be cost prohibitive. One major unique benefit is goats actively and aggressively seek out the berries, and unlike other animals, render the seeds unviable.

Pulling

- PRO: Pulling very effective if you have seedlings or stems less than .5" here and there
- CON: Time and labor intensive and disturbs the soil, which can encourage more buckthorn

Mowing

- PRO: Makes large infestations manageable. Mulch reduces resprouts.
- CON: MUST be followed up with chemical treatment. Less likely to damage desirable vegetation and compact soil if done in winter. Increased likelihood of spreading if transported on equipment.

Burning

- PRO: Good as a follow up or management technique. Will kill germinating seedlings.
- CON: But also stimulates germination and established plants will re-sprout.

Smothering

- PRO: Cuts down on amount of chemical used. Best in smaller areas where exposure to kids/pets high.
- CON: Must wait one to two years to take effect. Cluttered appearance.

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Control Methods

Manual

- Pulling
- Mowing
- Burning
- Smothering

Chemical

- Foliar
- Cut Stump
- Basal Bark
- Hack & Squirt/ Stem Injection

~~Biological~~

All treatment methods have strengths and weaknesses

Integrated approach most successful

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FOLIAR

MOST EFFICIENT TREATMENT IN DENSE INFESTATIONS

HIGHEST CHANCE OF EXPOSURE TO HERBICIDE AND OFF TARGET DAMAGE

CUT STUMP

INSTANT GRATIFICATION BUT LEFT WITH BRUSH

BEST TREATMENT FOR PLANTS >2”

TREAT AS SOON AS POSSIBLE AFTER CUTTING

CONSERVES HERBICIDE

BASAL BARK

WORKS BEST ON STEMS <2”

LEAVES STANDING DEAD

HACK & SQUIRT

USING AN AXE, MACHETE, HATCHET, OR SAW, MAKE CUTS (OR USE A DRILL AND DRILL HOLES) EVERY 3-4” AROUND THE TRUNK 6-18” ABOVE THE GROUND

USE A SPRY BOTTLE TO INJECT HERBICIDE INTO CUTS OR HOLES

RULE #1

Always Read and Follow the Pesticide Label

- Read the Label Before:
  - Purchasing
  - Mixing and applying
  - Storing and disposing

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Seriously,

READ THE **ENTIRE** LABEL

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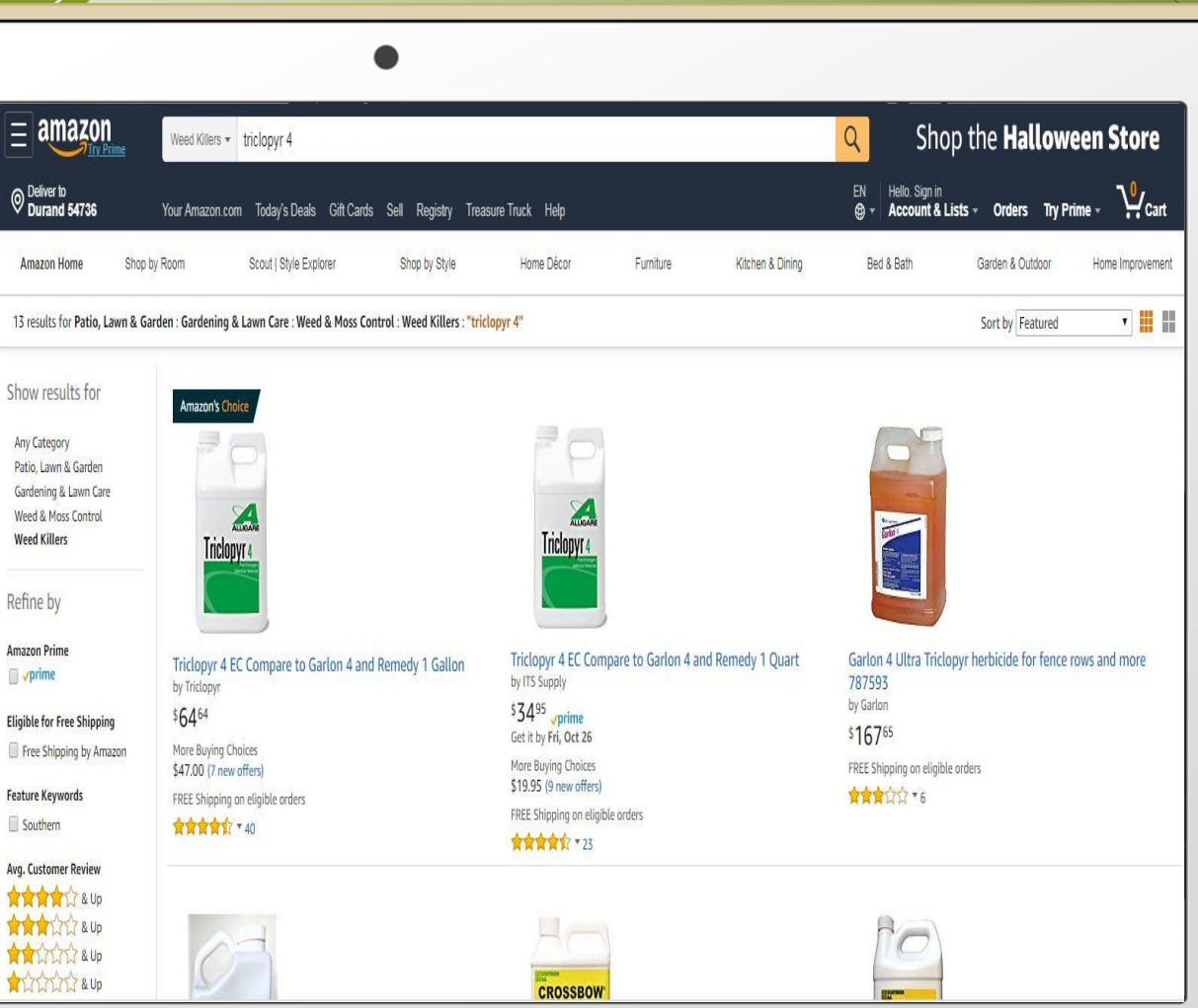

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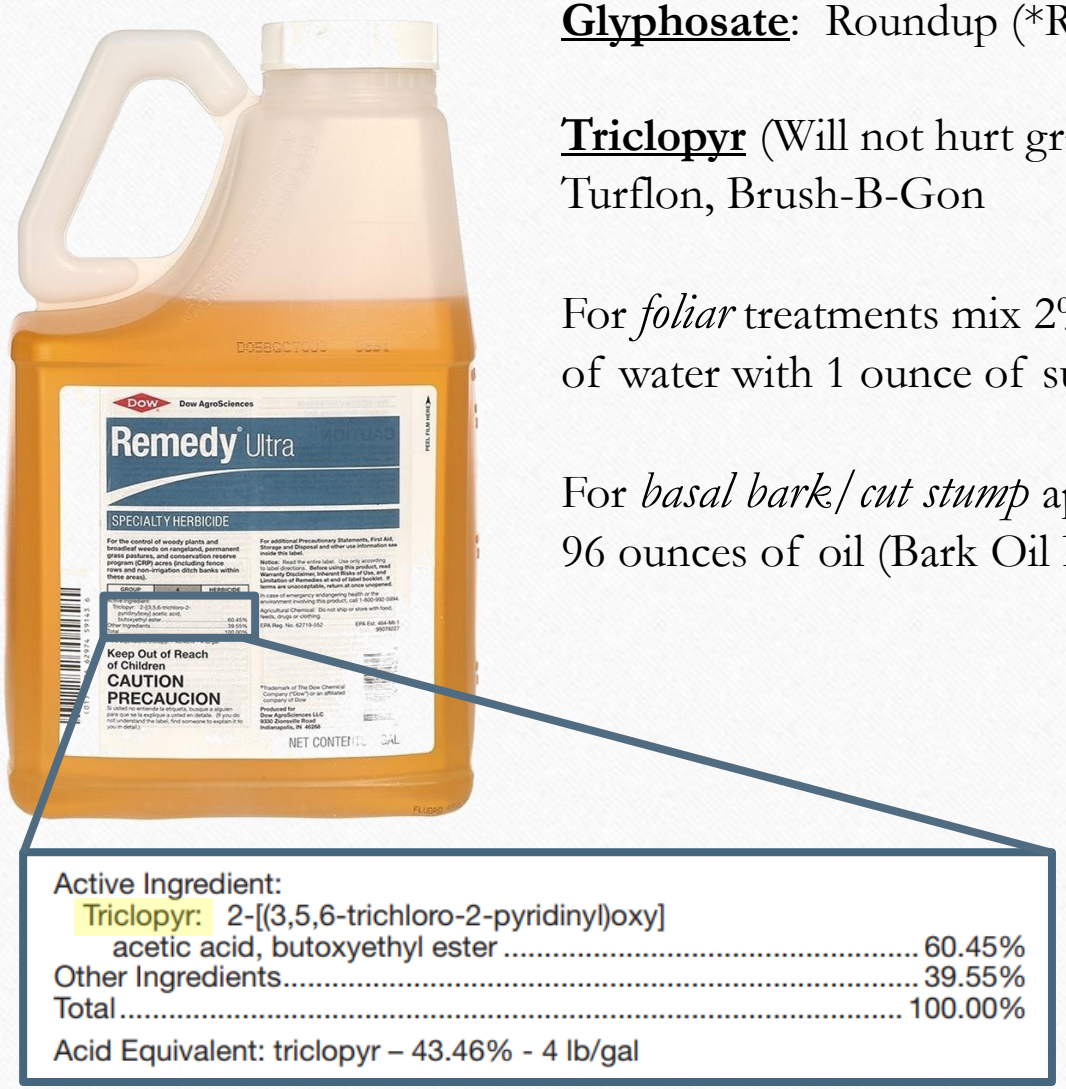

Glyphosate: Roundup (*Rodeo is for use in aquatic/riparian settings)

Triclopyr (Will not hurt grasses): Alligare, Vastlan, Garlon 4, Pathfinder II, Remedy, Turflon, Brush-B-Gon

For *foliar* treatments mix 2% solution: 2.5 ounces of Garlon 4 Ultra to 124.5 ounces of water with 1 ounce of surfactant (Dawn dish soap) to make 1 gallon.

For *basal bark/cut stump* applications mix 25% solution: 32 ounces Garlon 4 Ultra to 96 ounces of oil (Bark Oil Blue, diesel fuel, kerosene, vegetable oil) to make 1 gallon.

Crossbow = triclopyr + 2,4-D

*Imazapyr (for use in aquatic/riparian settings, but applications can result in bare ground since it is not selective and can remain in soil for several months to over a year): Stalker, Arsenal

*Glossy buckthorn thrives in wet areas. Be sure you are using herbicide correctly!!

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Water-soluble herbicides like glyphosate (Roundup, Rodeo) or triclopyr amine (Vastlan, brush killers, etc.) can be applied to cut stumps when the temperature is above freezing (32° F). Oil-based products of triclopyr ester (Garlon 4, Pathfinder II) can be applied when the temperature is below freezing (below 32° F)

Herbicides to Control Buckthorn

Trade Name	Chemical Name	Concentration	Use
Ortho Brush-B-Gon	Triclopyr amine	Ready to use - do not dilute	Cut stump
Ferti-Lome Brush Killer and Stump Killer	Triclopyr amine	Ready to use - do not dilute	Cut stump
Garlon 3A, Vastlan	Triclopyr amine	Mix one part Garlon 3A with 3 parts water (this achieves a 25% solution), for Vastlan consult label	Cut stump or hack & squirt
Garlon 4, Element 4	Triclopyr ester	Mix one part Garlon 4 with 3 parts bark oil/diluent (this achieves a 25% solution)	Cut stump or basal bark
Pathfinder II	Tryclopyr ester	Ready to use - do not dilute	Cut stump or basal bark
Roundup, Rodeo, Accord, Etc.	Glyphosate	·Cut stump or hack & squirt: Look for at least 25% active ingredient glyposate for cut-stump treatments. If using Roundup Concentrate you can mix 1 part water with 1 part herbicide to achieve a 50% solution. ·Foliar spray: Lower concentrations (2% active ingredient) work for foliar spray of seedlings. If using roundup concentrate you can mix a 1:50 to 1:20 herbicide:water ratio.	Cut stump, hack & squirt, or foliar spray

Gather ahead of time

What You Need

Chemical

- Herbicide
- Mixing solution
- Dye

Equipment

- Spray bottle
- Saw/clippers

PPE

- Gloves
- Glasses
- Long sleeves, pants, closed toe shoes
- Water bottle

Mixing & Clean Up

- Spill pan
- Funnel
- Shop towels
- Kitty litter

THE LABEL

- Read it
- Always have it on hand

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St. Croix County Recycling Newsletter

YOUR WASTELINE

St. Croix County Wisconsin
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Disposing of Invasive Weeds

Helpful Landowner Tip from the St. Croix-Red Cedar Cooperative Weed Management Area

Written by Nicole Butler, St. Croix River Association

Invasive species pose all types of problems for our environment and economy. From control to disposal, dealing with invasive weeds on your property requires special considerations.

When getting rid of invasive plant materials, it is important to consider how the weed spreads – by seed, vegetatively, or both – and how likely that spread is to occur during disposal. It is also important to keep in mind that transport of viable invasive plant materials without a permit is illegal under the Invasives Rule (NR 40).

Whenever possible, on-site disposal should be used to avoid further spread. For example, woody invasives like buckthorn and honeysuckle can often be left to dry between plastic tarps and then chipped or burned where permitted by all local, state and federal ordinances.

When on-site disposal is not possible, bagging for landfill is often the easiest and safest method, particularly for weeds that have already flowered and those that spread vegetatively. Unlike other yard waste, the Wisconsin DNR allows the landfilling of invasive species. To do this, first gather the weed materials in heavy-duty garbage bags or pile them securely between plastic tarps, and allow them to dry out and rot in a sunny place for several weeks. Always be mindful of the spread of seed as you move, pile and bag. Once the plants are no longer viable, they should be bagged separately and clearly labeled "Invasive Species."

For further questions on local invasive species or further information on removal or disposal, please contact the St. Croix-Red Cedar CWMA at *www.scrcinvasives.org*.

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FOLLOW UP IS KEY!

SEEDS CAN REMAIN VIABLE IN THE SOIL FOR 5 YEARS

BUCKTHORN MANAGEMENT IS A MULTI-YEAR COMMITMENT

With no follow-up control, buckthorn *will* come back

Short Term

- Treat new seedlings, saplings, and resprouts in areas where you have previously removed buckthorn.
- Monitor relatively buckthorn-free areas and control buckthorn plants if detected.

Long Term

- Consider fire as part of your forest management plan.
- Replant desirable species to minimize bare ground before it can be colonized by invasive species.

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Alternatives

Black Walnut

Emits a chemical that inhibits the growth of other plants

High-bush Cranberry

Staple winter food for ruffed grouse

Red Osier Dogwood

Year-round beauty with flowers in spring, white berries in fall, and red stems in winter

Chokecherry

Important food source for browsers, small mammals, birds, and butterflies

Sugar Maple

A vigorous, shade-tolerant carpet of seedlings can shade out buckthorn

Wild Ginger

Deer resistant, host plant for Pipevine Swallowtail butterfly, *and* forms a dense groundcover that fends off invasives

Hazelnut

Grows in wet or dry, sun or shade

Serviceberry

Edible berries are great in jams, muffins, and pies!

squareup.com/store/st-croix-county-cdd-tree-sale

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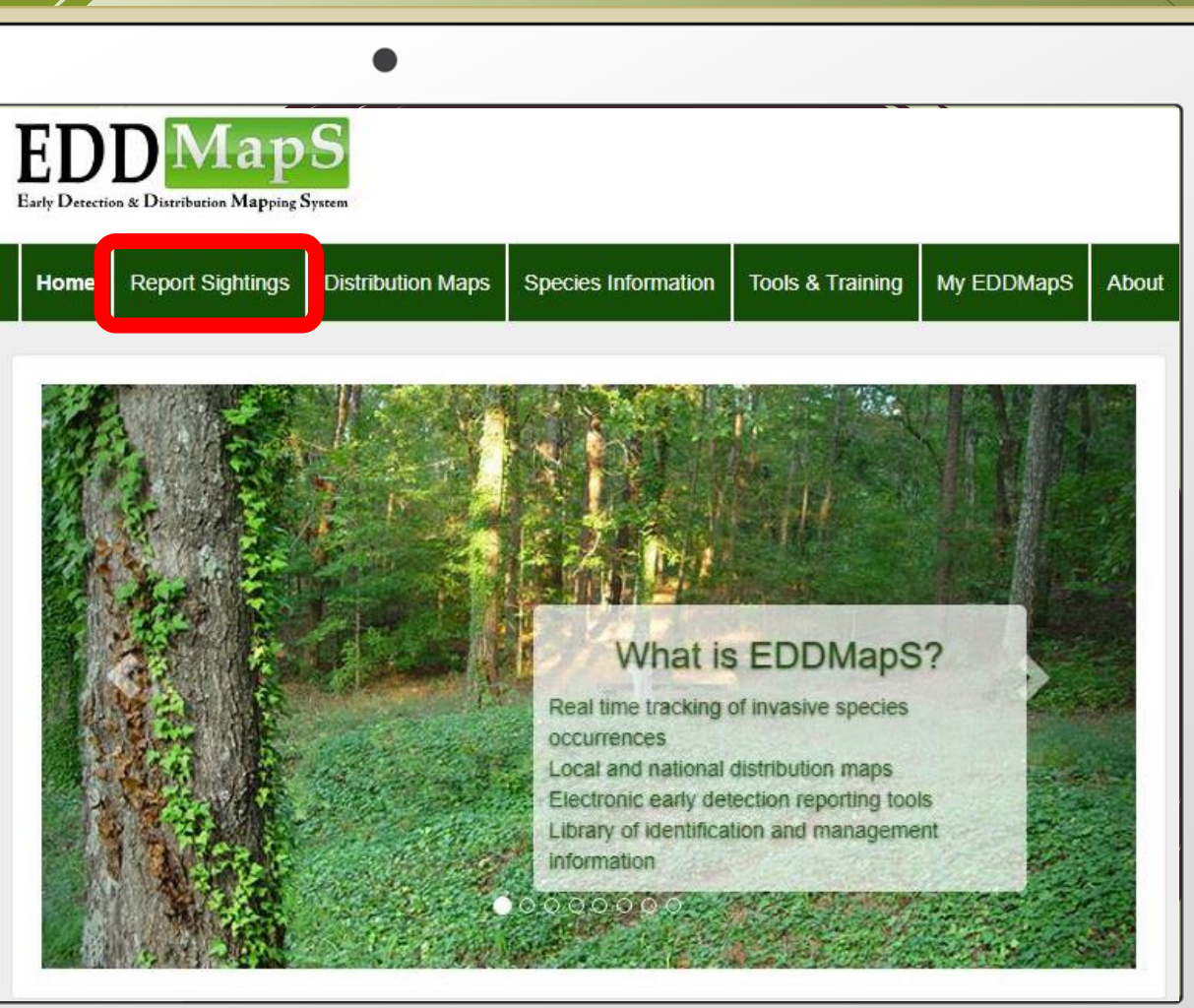

EDDMapS.org

Early **D**etection &
Distribution **Map**ping **S**ystem

(will need to set up login)

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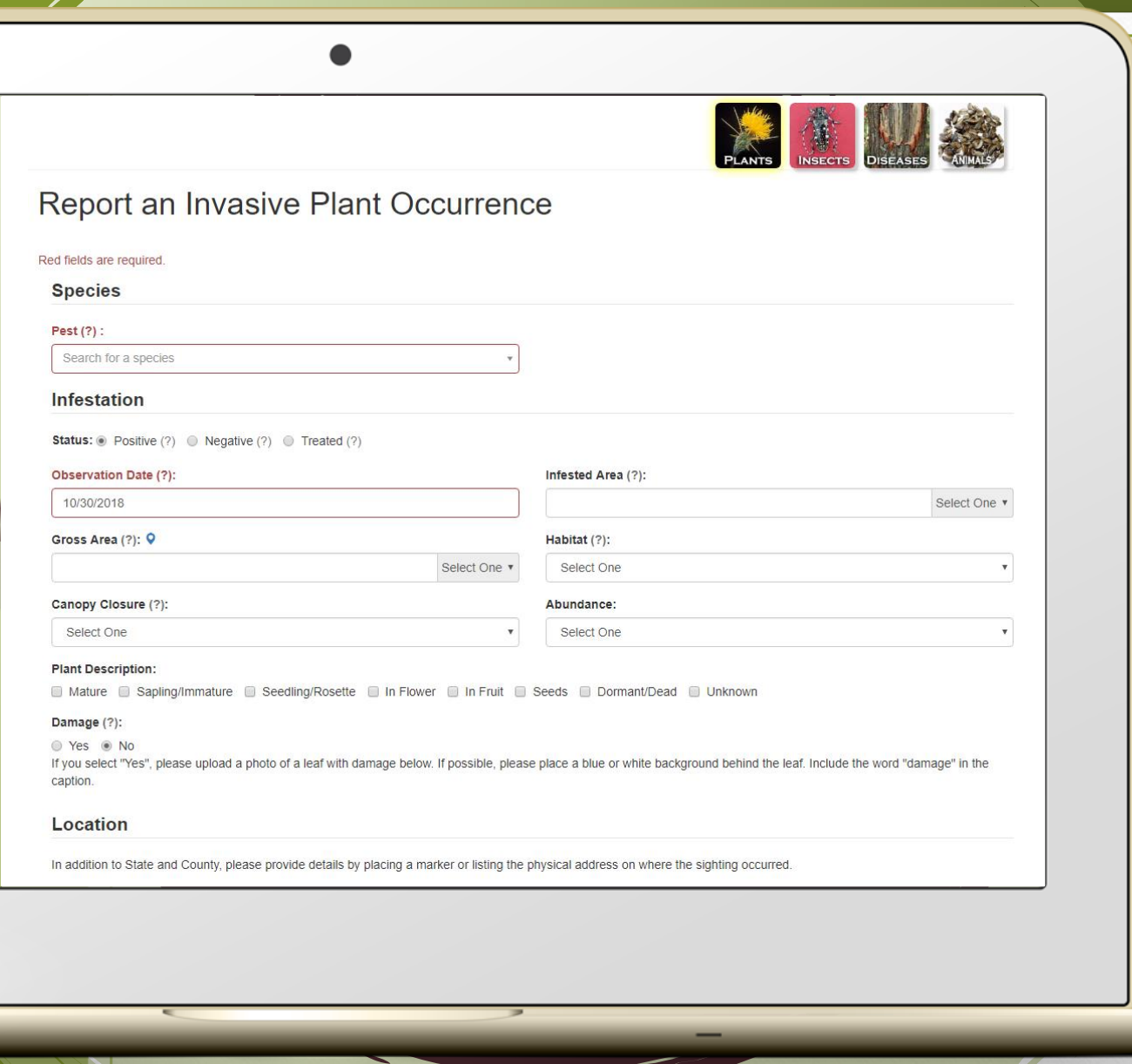

Minimum Info Needed

-Species

-Date

-Location (State & County)

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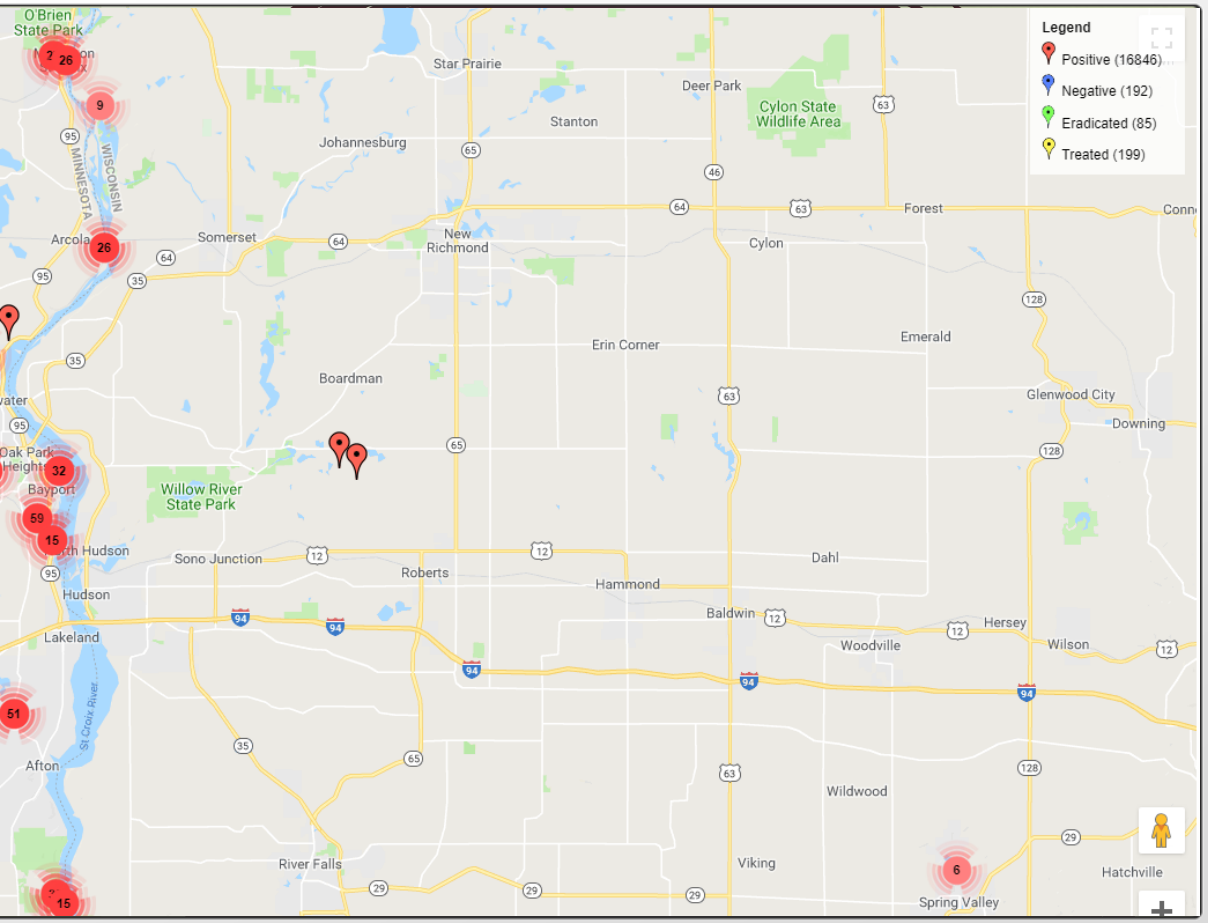

Need your help!

Only 19 records for common buckthorn in St. Croix County (and none of them are treatments). Zero observations for glossy buckthorn. We know this is not true.

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THANK YOU

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